c. Remarks

The claims are 1, 2 and 4-24 with claims 1, 4, 12, 20 and 23 being independent. Reconsideration of the claims is requested in view of the amendments and arguments provided hereafter.

Certain claims were amended to clarify that the surfactant remains in the pores after a drying step in which solvent is removed. Support for the amendment is found, inter alia, on page 15, line 13 to page 16, line 12. An unaxially aligned structure is formed over the entire thickness of the film and not only near the interface between the substrate and the film. Even if the surfactant is later removed by calcination, solvent extraction or the like, it is a feature of the invention that the porous structure and its uniaxial alignment are retained. See page 16, line 9 to page 17, line 1 and page 22, line 14 to page 24, line 26.

The objection to claims 9-11 and 17-19 as being improperly multiply dependent has been resolved by amendment and it is requested that claims 9-11 and 17-19 be treated on their merits.

With regard to the double patenting rejection, this is a provisional rejection which may never mature into an actual rejection depending on the prosecution in all cases. If need be, applicant will consider a terminal disclaimer at the appropriate time.

The objection to claims 1-8, 12-16 and 20-22 under Rule 112, second paragraph has been resolved by appropriate claim amendment.

The objection of claims 1-8, 12-16 and 20-22 under 35 U.S.C. § 102(f) is not in order since the applications in issue are owned by the same assignee.

The claims were rejected as anticipated by either Miyata, JP '812 or JP '995 or as obvious over Miyata in view of MacDougall or Fuchs. The rejections are respectfully traversed.

In Miyata a mesostructure material is formed by contacting a solution containing an alkoxide and a surfactant with the substrate and keeping the substrate surface in contact with the solution for one week. This prolonged contact forms the mesostructure

and not the drying step as in the present invention. Thereafter, the formed mesostructure is dried.

To the contrary, in the present claimed invention, the unaxial alignment is formed by drying the coated substrate and not by contacting the substrate with a coating solution for a prolonged period. On instant specification pages 15 and 16 it is disclosed that as the solvent evaporates, a self-organizing of the surfactant-silica is promoted. It is believed that upon solvent evaporation, the semi-solid state of the film allows microscopic movement of the silica-surfactant assembly to the most stable configuration. As noted in the instant Examples once the substrate is coated with reactant solution by dip coating, ink jet coating or the like, it is promptly dried in air to form the instant channel structure. One of ordinary skill understands that dip coating or ink jet coating or the like is a rapid contact process which can be conducted in seconds, if need be. In contrast, Miyata requires a week of contact between the substrate and solution to form an aligned structure, see Miyata, Experimental Section, on page 1610.

In JP '812 the abstract describes that the mesostructure is formed when the alkoxysilane solution is hydrolyzed. See also Translation paragraphs [0042], [0047] and [0055], in which solution-substrate contact times of several hours to several months are required. In JP '995 the contact time is similarly prolonged; i.e., 2 hours to 2 weeks (See paragraphs [0042] and [0044]) to form the mesostructure.

In the instant cited references the drying step(s) serves merely to remove solvent and/or surfactant, but does not alter the already-formed meso-structure. The prior art cited is silent on employing the drying step, not the solution contacting step, to form an aligned material with surfactant in it pores. The present invention provides a prompt method to formed the aligned structure by contacting the solution and substrate by ink-jet, dip or other, coating procedures which can be conducted promptly and, thereafter, drying after such contacting to form the channel structure without the need for a prolonged contact time of hours, weeks or months as required in the cited art to form the mesostructure.

The claims should be allowed and the case passed to issue.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

Attorney for Applicant

Registration No. 24947

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

NY_MAIN 331461v1